

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A method for speech recognition comprising:
 - a feature-amount extracting step for extracting a feature amount based on a frame of an input utterance;
 - a storing step for determining whether a current processing frame is within or at ~~an~~the end of a candidate word previously registered, and storing the candidate word on the basis of a first hypothesis-storage determining criterion when within ~~thea~~thea word and on the basis of a second hypothesis-storage determining criterion when at ~~thea~~thea word end;
 - a developing step for developing a hypothesis, the hypothesis being at least one hypothetic candidate word, the hypothetic candidate word selected from candidate words previously registered, by extending utterance segments expressing the hypothetic candidate word when a stored candidate word is within ~~thea~~thea word and by joining a new hypothetic candidate word to follow according to an inter-word connection rule when at ~~thea~~thea word end;
 - an operating step of computing, in the frame a similarity measure ~~of~~ between a the-frame feature amount extracted from the input utterance and a frame-based feature amount of an acoustic model of the developed hypothesis, and calculating a new recognition score from a) the similarity measure and b) a recognition score of the developed hypothesis of up to an immediately preceding frame calculated from the similarity measure; and
 - a step of repeating the storing step, the developing step and the operating step until the processing frame becomes a last frame of the input utterance, and outputting, as a recognition result approximate to the input utterance, at least one

of hypotheses in the order of higher recognition score due to processing the last frame,

wherein the first hypothesis-storage determining criterion selects candidate words within a predetermined threshold from a maximum value of the recognition score, and

the second hypothesis-storage determining criterion selects a subset of candidate words from among candidate words selected according to the first hypothesis-storage determining criterion, the subset of candidate words selected according to a predetermined number of upper ranking recognition scores.

2. (Cancelled).

3. (Currently Amended) An apparatus for speech recognition comprising:

a feature-amount extracting section for extracting a feature amount based on a frame of an input utterance;

a search control section for controlling to develop a hypothesis, the hypothesis being at least one hypothetical candidate word, the hypothetical candidate word selected from candidate words previously registered, by extending based on utterance segments to express a—the hypothetical candidate word when the hypothesis is within thea word and by joining a new hypothetical candidate word to follow according to an inter-word connection rule previously determined when at thea word end;

a similarity computing section for computing, in a frame, a similarity measure of-between a frame feature amount extracted from the input utterance and thea frame feature amount of an acoustic model of the developed hypothesis;

a search operating section for operating a recognition score from the similarity measure and recognition score of the developed hypothesis of up to an immediately preceding frame;

a hypothesis determining section for determining whether a current processing frame is within thea word or at thea word end of the hypothesis hypothetic candidate word and using the recognition score to select thea candidate word according to a first determining criterion when within thea word and to select thea candidate word according to a second determining criterion when at thea word end;

a hypothesis storing device for storing thea hypothesis determined to be stored;

a word hypothesis registering device for registering as a new hypothesis the hypothesis and the recognition score; and

a recognition result output section for continuing the frame-based process to a last frame of the input utterance and outputting at least one hypothesis in the order of higher recognition score,

wherein the first determining criterion selects candidate words within a predetermined threshold from a maximum value of the recognition score, and

the second hypothesis-storage determining criterion selects a subset of candidate words from among candidate words selected according to the first hypothesis-storage determining criterion, the subset of candidate words selected according to a predetermined number of upper ranking recognition scores.

4. (Cancelled).

5. (Currently Amended) A program for executing:

a feature-amount extracting step for extracting a feature amount based on a frame of an input utterance;

a storing step for determining whether a current processing frame is within or at thea end of a candidate word previously registered, and storing the candidate word on the basis of a first hypothesis-storage determining criterion when within

thea word and on the basis of a second hypothesis-storage determining criterion when at thea word end;

a developing step for developing a hypothesis, the hypothesis being at least one hypothetic candidate word, the hypothetic candidate word selected from candidate words previously registered, by extending utterance segments expressing the hypothetic candidate word when a stored candidate word is within thea word and by joining a new hypothetic candidate word to follow according to an inter-word connection rule when at thea word end;

an operating step of computing, in a frame, a similarity measure ~~of~~ between ~~the a frame~~ feature amount extracted from the input utterance and a frame-based feature amount of an acoustic model of the developed hypothesis, and calculating a new recognition score from a) the similarity measure and b) a recognition score of the developed hypothesis of up to an immediately preceding frame calculated from the similarity measure; and

a step of repeating the storing step, the developing step and the operating step until the processing frame becomes a last frame of the input utterance, and outputting, as a recognition result approximate to the input utterance, at least one of hypotheses in the order of higher recognition score due to processing the last frame,

wherein the first hypothesis-storage determining criterion selects candidate words within a predetermined threshold from a maximum value of the recognition score, and

the second hypothesis-storage determining criterion selects a subset of candidate words from among candidate words selected according to the first hypothesis-storage determining criterion, the subset of candidate words selected according to a predetermined number of upper ranking recognition scores.

6. (Cancelled).

7. (Currently Amended) A computer-readable recording medium recording a program for executing:

a feature-amount extracting step for extracting a feature amount based on a frame of an input utterance;

a storing step for determining whether a current processing frame is within or at the end of a candidate word previously registered, and storing the candidate word on the basis of a first hypothesis-storage determining criterion when within the word and on the basis of a second hypothesis-storage determining criterion when at the word end;

a developing step for developing a hypothesis, the hypothesis being at least one hypothetic candidate word, the hypothetic candidate word selected from candidate words previously registered, by extending utterance segments expressing the hypothetic candidate word when a stored candidate word is within the word and by joining a new hypothetic candidate word to follow according to an inter-word connection rule when at the word end;

an operating step of computing, in a frame, a similarity measure ~~of~~ between ~~the~~ a frame feature amount extracted from the input utterance and a frame-based feature amount of an acoustic model of the developed hypothesis, and calculating a new recognition score from a) the similarity measure and b) a recognition score of the developed hypothesis of up to an immediately preceding frame calculated from the similarity measure; and

a step of repeating the storing step, the developing step and the operating step until the processing frame becomes a last frame of the input utterance, and outputting, as a recognition result approximate to the input utterance, at least one of hypotheses in the order of higher recognition score due to processing the last frame,

wherein the first hypothesis-storage determining criterion selects candidate words within a predetermined threshold from a maximum value of the recognition score, and

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the second hypothesis-storage determining criterion selects a subset of candidate words from among candidate words selected according to the first hypothesis-storage determining criterion, the subset of candidate words selected according to a predetermined number of upper ranking recognition scores.

8. (Cancelled).